



Digitized by the Internet Archive
in 2026

BIOCHEMICAL AND BIOPHYSICAL Research Communications

EDITORS

John N. Abelson
Ernesto Carafoli
I.C. Gunsalus
Akira Ichihara

James D. Jamieson
Yasuo Kagawa
M. Daniel Lane

William J. Lennarz
Masami Muramatsu
Claude Paoletti
Bennett M. Shapiro

Volume 186 • 1992



ACADEMIC PRESS, INC.

Harcourt Brace Jovanovich, Publishers

San Diego New York Boston

Copyright © 1992 by Academic Press, Inc.

ALL RIGHTS RESERVED

No part of this publication may be reproduced or transmitted in any form, or by any means, electronic or mechanical, including photocopy, recording, or any information storage and retrieval system, without permission in writing from the copyright owner.

The appearance of the code at the bottom of the first page of an article in this journal indicates the copyright owner's consent that copies of the article may be made for personal or internal use, or for the personal or internal use of specific clients. This consent is given on the condition, however, that the copier pay the stated per copy fee through the Copyright Clearance Center, Inc. (27 Congress Street, Salem, Massachusetts 01970), for copying beyond that permitted by Sections 107 or 108 of the U.S. Copyright Law. This consent does not extend to other kinds of copying, such as copying for general distribution, for advertising or promotional purposes, for creating new collective works, or for resale. Copy fees for pre-1992 articles are as shown on the article title pages; if no fee code appears on the title page, the copy fee is the same as for current articles.

0006-291X/92 \$4.00

MADE IN THE UNITED STATES OF AMERICA

This journal is printed on acid-free paper.



BIOCHEMICAL AND BIOPHYSICAL RESEARCH COMMUNICATIONS

CONTENTS

Volume 186, Number 1, July 15, 1992

Effect of Bufalin and Pregnanes on Vasoreactivity of Human Resistance Arteries <i>R. G. Woolfson, J. G. Graves, F. S. LaBella, J. F. Templeton, and L. Poston</i>	1
Zervamicins, a Structurally Characterized Peptide Model for Membrane Ion Channels <i>S. Agarwalla, I. R. Mellor, M. S. P. Sansom, I. L. Karle, J. L. Flippen-Anderson, K. Uma, K. Krishna, M. Sukumar, and P. Balaram</i>	8
Isolation and Characterization of Mitochondria from Human B Lymphoblastoid Cell Lines <i>T. Bourgeron, D. Chretien, A. Rötig, A. Munnich, and P. Rustin</i>	16
Proton Transport and Na ⁺ /H ⁺ Exchange in Vesicles Isolated from Sockeye Salmon (<i>Oncorhynchus nerka</i>) Kidneys during Migration from Salt to Fresh Water <i>Eric G. Holmberg and Nathan Turner</i>	24
Androst-5-ene-7,17-dione: A Novel Class of Suicide Substrate of Aromatase <i>Mitsuteru Numazawa, Ayako Mutsumi, Kumiko Hoshi, and Yuko Tanaka</i>	32
Cloning and Disruption of the cefG Gene Encoding Acetyl Coenzyme A:Deacetylcephalosporin C O-Acetyltransferase from <i>Acremonium chrysogenum</i> <i>Akio Matsuda, Hiroyosi Sugiura, Kenji Matsuyama, Hideyuki Matsumoto, Sigeaki Ichikawa, and Ken-ichi Komatsu</i>	40
Mitochondrial tRNA ^{Leu} Mutation in Fatal Cardiomyopathy <i>M. Taniike, H. Fukushima, I. Yanagihara, H. Tsukamoto, J. Tanaka, H. Fujimura, T. Nagai, T. Sano, K. Yamaoka, K. Inui, and S. Okada</i>	47
Stimulatory Effects of Estrogen and Progesterone on Proliferation and Differentiation of Normal Human Osteoblast-like Cells <i>in Vitro</i> <i>Ben A. A. Scheven, Cora A. Damen, Nicola J. Hamilton, Harald J. J. Verhaar, and Sijmen A. Duursma</i>	54
Primary Structure of Squid Sodium Channel Deduced from the Complementary DNA Sequence <i>Chikara Sato and Gen Matsumoto</i>	61
A Parathyroid-Related Peptide (PTHrP) Induces Transcaltachia (the Rapid, Hormonal Stimulation of Intestinal Ca ²⁺ Transport) <i>Li-Xin Zhou, Ilka Nemere, and Anthony W. Norman</i>	69
NADPH-Dependent Inhibition of Lipid Peroxidation in Rat Liver Microsomes <i>Valerian E. Kagan, Elena A. Serbinova, Asaad Safadi, Judith D. Catudioc, and Lester Packer</i>	74
Feedback Repression of Polyamine Uptake into Mammalian Cells Requires Active Protein Synthesis <i>John L. A. Mitchell, Roger R. Diveley, Jr., and Aviva Bareyal-Leyser</i>	81
Identification of Water-Soluble Proteases in Myelin Preparations <i>G. M. Liuzzi, A. Ventola, P. Riccio, and E. Quagliariello</i>	89
Apolipoprotein A-1 Interacts with the N-Terminal Fusogenic Domains of SIV (Simian Immunodeficiency Virus) GP32 and HIV (Human Immunodeficiency Virus) GP41: Implications in Viral Entry <i>I. Martin, M.-C. Dubois, T. Saermark, and J.-M. Ruysschaert</i>	95
Novel Glycosylation-Defective Baby Hamster Kidney Cells <i>James Ripka and Michael Pierce</i>	102

Properties of 1-Methyladenine Receptors in Starfish Oocyte Membranes: Involvement of Pertussis Toxin-Sensitive GTP-Binding Protein in the Receptor-Mediated Signal Transduction	<i>Hirohiko Tadenuma, Katsunobu Takahashi, Kazuyoshi Chiba, Motonori Hoshi, and Toshiaki Katada</i>	114
Computer Modeling of Two Inorganic Pyrophosphatases	<i>Mauno Vihinen, Maria Lundin, and Herrick Baltscheffsky</i>	122
Direct <i>in Vivo</i> Gene Introduction into Rat Kidney	<i>Naruya Tomita, Jitsuo Higaki, Ryuichi Morishita, Keiko Kato, Hiroshi Mikami, Yasufumi Kaneda, and Toshio Ogihara</i>	129
Two Novel Monoclonal Antibodies to Fibronectin That Recognize the Hep II and CS-1 Regions, Respectively: Their Differential Effect on Lymphocyte Adhesion	<i>Angeles Garcia-Pardo, Paloma Sánchez-Aparicio, and Elizabeth A. Wayner</i>	135
Gene Synthesis and Expression in <i>Escherichia coli</i> for Pump, a Human Matrix Metalloproteinase	<i>Qi-Zhuang Ye, Linda L. Johnson, and Vijaykumar Baragi</i>	143
Nitric Oxide from Endothelium and Smooth Muscle Modulates Responses to Sympathetic Nerve Stimulation: Implications for Endotoxin Shock	<i>C. Gonzalez, A. Fernandez, C. Martin, S. Moncada, and C. Estrada</i>	150
Biosynthesis of <i>trans,trans,trans</i> -Geranylgeranyl Diphosphate by the Cytosolic Fraction from Rat Tissues	<i>Mårten Runquist, Johan Ericsson, Anders Thelin, Tadeusz Chojnacki, and Gustav Dallner</i>	157
Induction of Thermotolerance in T Cells Protects Nuclear DNA Topoisomerase I from Heat Stress	<i>Richard P. Ciavarra, Weijia Duvall, and Frank J. Castora</i>	166
P-Selectin (CD62) Binds to Subpopulations of Human Memory T Lymphocytes and Natural Killer Cells	<i>Kevin L. Moore and Linda F. Thompson</i>	173
Correlation among Oxysterol Potencies in the Regulation of the Degradation of 3-Hydroxy-3-methylglutaryl CoA Reductase, the Repression of 3-Hydroxy-3-methylglutaryl CoA Synthase, and Affinities for the Oxysterol Receptor	<i>Frederick R. Taylor</i>	182
cDNA Sequence Analysis of CP94: Rat Lens Fiber Cell Beaded-Filament Structural Protein Shows Homology to Cytokeratins	<i>Shigeo Masaki and Tomomasa Watanabe</i>	190
Effects of Epidermal Growth Factor on APOB mRNA Levels and APOB Accumulation in the Media of Primate Hepatocytes in Culture	<i>William L. Blake, Thomas J. Vidmar, and George W. Melchior</i>	199
Pertussis Toxin Blocks Activin A-Induced Production of Inositol Phosphates in Rat Hepatocytes	<i>Tetsuya Mine, Itaru Kojima, and Etsuro Ogata</i>	205
Intermolecular Homologies of Human Interferon- α	<i>Fedor E. Romantsev, Nikolai N. Khodarev, and Igor I. Votrin</i>	211
The Sarcoplasmic Reticulum Ca^{2+} -ATPase, SERCA1A, Contains Endoplasmic Reticulum Targeting Information	<i>Norman J. Karin and Valerie J. Settle</i>	219
Enhanced Expression of Membrane Phosphoproteins Tyrosine Phosphorylation in Estrogen-Induced Kidney Tumors	<i>Satya Narayan and Deodutta Roy</i>	228
Cytokines Stimulate Lipolysis and Decrease Lipoprotein Lipase Activity in Cultured Fat Cells by a Prostaglandin Independent Mechanism	<i>Ingibjörg Hardardóttir, William Doerrler, Kenneth R. Feingold, and Carl Grünfeld</i>	237
Analysis of the Order of Autophosphorylation of Human Insulin Receptor Tyrosines 1158, 1162, and 1163	<i>Martin Dickens and Jeremy M. Tavaré</i>	244

cAMP-Regulated Chloride Currents in CHO Cells	<i>Allen W. Mangel, Srisaila Basavappa, John R. Raymond, and J. Gregory Fitz</i>	251
The Human Complement C4B/Steroid 21-Hydroxylase (CYP21) and Complement C4A/21-Hydroxylase Pseudogene (CYP21P) Intergenic Sequences: Comparison and Identification of Possible Regulatory Elements	<i>Patricia A. Donohoue and Malia M. Collins</i>	256
Inhibition of Receptor-Stimulated Guanylyl Cyclase by Intracellular Calcium Ions in <i>Dictyostelium</i> Cells	<i>Romi Valkema and Peter J. M. Van Haastert</i>	263
Characterization of a Novel Arachidonic Acid-Derived Neutrophil Chemoattractant	<i>F. Joseph Roll, H. Daniel Perez, and Charles N. Serhan</i>	269
Cloning, Expression, and Characterization of a Gene Encoding the Human Angiotensin II Type 1A Receptor	<i>C. A. Mauzy, O. Hwang, A. M. Egloff, L.-H. Wu, and F.-Z. Chung</i>	277
Angiotensin II Receptor Subtypes Play Opposite Roles in Regulating Phosphatidylinositol Hydrolysis in Rat Skin Slices	<i>Robert Gyurko, Birgitta Kimura, Pawels Kurian, Fulton T. Crews, and M. Ian Phillips</i>	285
Characterization of Mouse Inhibin α Gene and Its Promoter	<i>Jyan-Gwo J. Su and Aaron J. W. Hsueh</i>	293
Human Insulin-like Growth Factor Binding Protein-6 Is O-Glycosylated	<i>Leon A. Bach, N. Rao Thotakura, and Matthew M. Rechler</i>	301
Biosynthesis of Nitric Oxide and Citrulline from L-Arginine by Constitutive Nitric Oxide Synthase Present in Rabbit Corpus Cavernosum	<i>Peggy A. Bush, Norma E. Gonzalez, and Louis J. Ignarro</i>	308
Low Density Lipoprotein Inhibits Accumulation of Nitrites in Murine Brain Endothelial Cell Cultures	<i>Michal Bereta, Joanna Bereta, Stanley Cohen, and Marion C. Cohen</i>	315
Suppression of Crossbridge Motions of Isolated Thick Myofilaments in ATP-Free Medium by Thiourea	<i>Shih-fang Fan, M. M. Dewey, and B. Chu</i>	321
Photothermal Spectroscopy of Bacteriochlorophyll-Lipoprotein Complexes	<i>D. Frackowiak, R. Cegielski, I. Abdourakhmanov, and R. M. Leblanc</i>	327
Amide Bond Cleavage Monitored Continuously Through Detection of a Dansyl-cadaverine Leaving Group	<i>L. Lorand, S. N. P. Murthy, K. N. Parameswaran, P. T. Velasco, and J. Wilson</i>	334
Level of ET _B Receptor mRNA Is Down-Regulated by Endothelins through Decreasing the Intracellular Stability of mRNA Molecules	<i>Takeshi Sakurai, Hiroaki Morimoto, Yosohitoshi Kasuya, Yoh Takuwa, Hiromitsu Nakauchi, Tomoh Masaki, and Katsutoshi Goto</i>	342
Invasion of Brain Tissue by Primary Glioma: Evidence for the Involvement of Urokinase-Type Plasminogen Activator as an Activator of Type IV Collagenase	<i>Alison Reith and Garry J. Rucklidge</i>	348
Action of Endothelin-1 on Rat Astrocytes through the ET _B Receptor	<i>Hiroshi Hama, Takeshi Sakurai, Yoshitoshi Kasuya, Motoo Fujiki, Tomoh Masaki, and Katsutoshi Goto</i>	355
Differential Expression of the <i>Neu</i> Oncogene in Mouse Liver and Pancreatic Cell Lines	<i>Duen-Hwa Yan, Maria Carmen Marin, and Mien-Chie Hung</i>	363
Hsp60/Chaperonin Gene Expression and Differentiation of Human Colon Adenocarcinoma and Multipotent Leukemic Cells	<i>Xiang Lu and Vern L. Seligy</i>	371
Membrane Fusion of Influenza Virus with Phosphatidylcholine Liposomes Containing Viral Receptors	<i>Kazunori Kawasaki and Shun-ichi Ohnishi</i>	378

An Immunomodulatory Protein, Ling ZHI-8 (LZ-8), Facilitates Cellular Interaction through Modulation of Adhesion Molecules	<i>Nobuyuki Miyasaka, Hiroko Inoue, Tetsuya Totsuka, Ryuji Koike, Kohsuke Kino, and Hajime Tsunoo</i>	385
Role of Mg^{2+} in Activation of NADPH Oxidase of Human Neutrophils: Evidence That Mg^{2+} Acts through G-Protein	<i>Kunihiko Aoyagi, Koichiro Takeshige, Hideki Sumimoto, Hiroyuki Nunoi, and Shigeki Minakami</i>	391
Increased Plasma Post-Heparin Diamine Oxidase Activity and Plant Sterol Levels in Streptozotocin Diabetic Rat	<i>Hideto Kojima, Yumiko Omoto, Hideki Hidaka, Takahiko Aoki, Takaaki Nakamura, Toshihiro Kawabata, Kazunori Konaka, Atsunori Kashiwagi, Ryuichi Kikkawa, and Yukio Shigeta</i>	398
A Novel Saccharide Structure, Xyl 1 $\rightarrow$ 3 Gal 1 $\rightarrow$ (So ₃ -)3,4 Fuc $\rightarrow$, Is Present in Acrosome Reaction-Inducing Substance (ARIS) of the Starfish, <i>Asterias amurensis</i>	<i>Tatsuyuki Okinaga, Yoko Ohashi, and Motonori Hoshi</i>	405
Purification and Characterization of S-Modulin, a Calcium-Dependent Regulator, on cGMP Phosphodiesterase in Frog Rod Photoreceptors	<i>Satoru Kawamura, Ken Takamatsu, and Kunio Kitamura</i>	411
Rat Hypothalamic Proopiomelanocortin Messenger RNA Is Unaffected by Adrenalectomy	<i>Martin N. Scanlon, Eliane Lazar-Wesley, Tamas Csikos, and George Kunos</i>	418
Amplification of P450c21 Expression in Cultured Mammalian Cells	<i>Michael H. Ricketts, Eric Chiao, Meng-Chun Hu, and Bon-chu Chung</i>	426
Morphological and Biochemical Evidence for Partial Nuclear Localization of Annexin 1 in Endothelial Cells	<i>Patrick Raynal, Paul M. P. van Bergen en Henegouwen, Francoise Hullin, Jeannie M. F. Ragab-Thomas, Josette Fauvel, Arie Verkleij, and Hugues Chap</i>	432
Epinephrine Induces Association of pp60 ^{src} with G _{1α} in Human Platelets	<i>Mauro Torti, Michael F. Crouch, and Eduardo G. Lapetina</i>	440
Post-translational Isoprenylation of Rho Protein Is a Prerequisite for Its Interaction with Mastoparan and Other Amphiphilic Agents	<i>G. Koch, C. Mohr, I. Just, and K. Aktories</i>	448
Kupffer Cells Play a Major Role in Insulin-Mediated Hepatic Glucose Uptake <i>in Vivo</i>	<i>Zoltán Spolarics, Aurél Ottlakán, Charles H. Lang, and John J. Spitzer</i>	455
Complement Inhibitor C4-Binding Protein in Amyloid Deposits Containing Serum Amyloid P in Alzheimer's Disease	<i>R. N. Kalaria and S. N. Kroon</i>	461
<i>In Vitro</i> Interaction between <i>Saccharomyces cerevisiae</i> CDC25 and RAS2 Proteins	<i>Maurizio D. Baroni, Giulia Marconi, M. Carla Parrini, Paolo Monti, and Lilia Alberghina</i>	467
Nitric Oxide Mediates Tumor Necrosis Factor- α Cytotoxicity in Endothelial Cells	<i>C. Estrada, C. Gómez, C. Martín, S. Moncada, and C. González</i>	475
A Gradient in Expression of the <i>Escherichia coli</i> Heat-Stable Enterotoxin Receptor Exists along the Villus-to-Crypt Axis of Rat Small Intestine	<i>Mitchell B. Cohen, Elizabeth A. Mann, Chantal Lau, Susan J. Henning, and Ralph A. Giannella</i>	483
Is a Point Mutation in the Mitochondrial ND2 Gene Associated with Alzheimer's Disease?	<i>Vittoria Petruzzella, Xi Chen, and Eric A. Schon</i>	491

A Novel Low-Density Lipoprotein with Large Amounts of Phospholipid Found in the Egg Yolk of Crustacea Sand Crayfish <i>Ibacus ciliatus</i> : Its Function as Vitellogenin-Degrading Proteinase	Masaharu Komatsu and Seiichi Ando	498
Glucagonlike Peptide-1(7-36)Amide Suppresses Glucagon Secretion and Decreases Cyclic Amp Concentration in Cultured In-R1-G9 Cells	Toshiko Matsumura, Hidehiko Itoh, Nobuaki Watanabe, Yasuo Oda, Misuzu Tanaka, Mitsuyoshi Namba, Norio Kono, Tatsuo Matsuyama, Ryoya Komatsu, and Yuji Matsuzawa	503
Reconstitution and Characterization of the Human Neutrophil Respiratory Burst Oxidase Using Recombinant p47-phox, p67-phox and Plasma Membrane	David J. Uhlinger, K. Leigh Inge, Mary L. Kreck, Shiv Raj Tyagi, Nickolas Neckelmann, and J. David Lambeth	509
Insulin Induced Phosphorylation and Activation of the cGMP-Inhibited cAMP Phosphodiesterase in Human Platelets	Pilar López-Aparicio, Ana Rascón, Vincent C. Manganiello, Karl-Erik Andersson, Per Belfrage, and Eva Degerman	517
Okadaic Acid Induces the Rapid and Reversible Disruption of the Neurofilament Network in Rat Dorsal Root Ganglion Neurons	Michael G. Sacher, Eric S. Athlan, and Walter E. Mushynski	524
Stearoyl-CoA Desaturase Gene Expression in Lymphocytes	Paul W. Tebbey and Thomas M. Buttke	531
p56 ^{lck} Stably Associates with a 115-kDa Substrate	Pothur R. Srinivas, Jill E. Hutchcroft, Brian D. Aube, and Marietta L. Harrison	537
Growth Inhibition of Leukemia Cell Line CEM-C1 by Farnesol: Effects of Phosphatidylcholine and Diacylglycerol	George Melnykovych, Jeffrey S. Haug, and Cheryl M. Goldner	543
The Cysteine Residues in the Carboxy Terminal Domain of Tropoelastin Form an Intrachain Disulfide Bond That Stabilizes a Loop Structure and Positively Charged Pocket	Patricia L. Brown, Lisa Mecham, Clarina Tisdale, and Robert P. Mecham	549
Ga ³⁺ Inhibits Parathyroid Hormone Release without Interacting with the CA ²⁺ Receptor of the Parathyroid Cell	Peter Ridefelt, Per Hellman, Östen Ljunggren, Sverker Ljunghall, Göran Åkerström, Jonas Rastad, and Erik Gylfe	556
Two Distinct Membrane-Bound Phosphatidylinositol-4-Phosphate Phosphatases in Bovine Brain	Shi-Mei Wang and Barry R. Ganong	562
Synergistic Action of Two Oxysterols in the Lowering of HMG-CoA Reductase Activity in CHO-K1 Cells	Frederick D. Pinkerton, Ronald P. Pelley, and George J. Schroepfer, Jr.	569
On the Mechanisms of KU Protein Binding to DNA	Wei-Wei Zhang and Mariana Yaneva	574
Product Analyses in DNA Strand Scission by Antitumor Antibiotic Elsamicin A	Motonari Uesugi and Yukio Sugiura	580
Cloning and Expression of Rat Preproendothelin-3 cDNA	Reiko Shiba, Takeshi Sakurai, Goro Yamada, Hiroaki Morimoto, Akira Saito, Tomoh Masaki, and Katsutoshi Goto	588
Volatile Anesthetics Selectively Alter [³ H]Ryanodine Binding to Skeletal and Cardiac Ryanodine Receptors	Timothy J. Connelly, Roque-El Hayek, Ben F. Rusy, and Roberto Coronado	595

ERRATA

- Volume 175, Number 3, March 29, 1991: Clifford A. Lingwood, Michael Cheng, Howard C. Krivan, and Donald Woods, "Glycolipid Receptor Binding Specificity of Exoenzyme S from *Pseudomonas aeruginosa*," pp.1076–1081 601
- Volume 185, Number 2, June 15, 1992: Yuichiro J. Suzuki, Masahiko Tsuchiya, Yasuko Shindo, and Lester Packer, "Cigarette Smoke Exposure Increases in the Cell Water Organization and Membrane Order of Cultured T Cells," pp. 624–629 601

BIOCHEMICAL AND BIOPHYSICAL RESEARCH COMMUNICATIONS

CONTENTS

Volume 186, Number 2, July 31, 1992

- Correlation between Up-Regulation of Lymphokine mRNA and Down-Regulation of TcR, CD4, CD8, and Ick mRNA as Shown by the Effect of CsA on Activated T Lymphocytes *Florence Paillard, Ghyslaine Sterkers, and Catherine Vaquero* 603
- Hydrogen/Deuterium Isotope Effect in the Oscillating Peroxidase–Oxidase Reaction *Paul Rys and Junkuan Wang* 612
- Thyroid Hormone Modulates Apolipoprotein B Gene Expression in HepG2 Cells *Andre Theriault, Godwin Ogbonna, and Khosrow Adeli* 617
- The Inhibition of Phosphatidylinositol 3-Kinase by Quercetin and Analogs *William F. Matter, Raymond F. Brown, and Chris J. Vlahos* 624
- Glycation of Lens MIP26 Affects the Permeability in Reconstituted Liposomes *M. S. Swamy and E. C. Abraham* 632
- Proteolytic Machinery of Glomerular Epithelial Cells against IgG *Ashok K. Singh* 639
- Porin of *Pseudomonas aeruginosa* Forms Low Conductance Ion Channel in Planar Lipid Bilayers *Makoto Obara and Taiji Nakae* 645
- ABA-Induced "Lipid Melting" and Its Reversal by Umbelliferone in the Plasmalemma of Guard Cell Protoplasts: A Breakthrough in Plant Hormone–Receptor Binding and Hormone Action *Sadhna Purohit, Pradeep Kumar G., Malini Laloraya, Sudhakar Bharti, and Manmohan M. Laloraya* 652
- Low-Affinity Ca^{2+} -Binding Sites versus Zn^{2+} -Binding Sites in Histidine-Rich Ca^{2+} -Binding Protein of Skeletal Muscle Sarcoplasmic Reticulum *Enzo Picello, Ernesto Damiani, and Alfredo Margreth* 659
- Calreticulin Is Present in the Acrosome of Spermatids of Rat Testis *Masahisa Nakamura, Yuichi Michikawa, Tadashi Baba, Shoichi Okinaga, and Kiyoshi Arai* 668
- The Regulation of the Intracellular Sodium Ion Concentration in Cultured Chick Embryo Heart Cells *Barbara Ahlemeyer, Horst Weintraut, and Wilhelm Schoner* 674
- Interleukin-8 Inhibits the Induction of Nitric Oxide Synthase in Rat Peritoneal Neutrophils *T. B. McCall, R. M. J. Palmer, and S. Moncada* 680
- Identification of the Iron-Binding Histidine Residues in Soybean Lipooxygenase L-1 *Janusz Steczko and Bernard Axelrod* 686

The <i>Lux</i> Genes in <i>Photobacterium leiognathi</i> Are Closely Linked with Genes Corresponding in Sequence to Riboflavin Synthesis Genes	Chan Yong Lee and Edward A. Meighen	690
Quinone Dependent NADH Dehydrogenation in Mitochondria-like Particles from <i>Setaria digitata</i> , a Filarial Parasite	V. M. Sivan and R. Kaleysa Raj	698
A Novel Endothelial Tyrosine Kinase cDNA Homologous to Platelet-Derived Growth Factor Receptor cDNA	Riccardo Sarzani, Giorgio Arnaldi, Roberto De Pirro, Paolo Moretti, Stefano Schiaffino, and Alessandro Rappelli	706
Transactivation of the Human c-Myc Gene by c-Myb	Andrea Zobel, Frank Kalkbrenner, Gerd Vorbrueggen, and Karin Moelling	715
Identification of Four Genomic Loci Highly Related to Casein Kinase-2- α cDNA and Characterization of a Casein Kinase-2- α Pseudogene within the Mouse Genome	Brigitte Boldyreff, Klaus Wehr, Roland Hecht, and Olaf-Georg Issinger	723
Purification and Properties of a Functional 47-kDa Cytosolic Factor Required for NADPH-Oxidase Activation in Bovine Neutrophils	Marie-Claire Pilloud-Dagher, Alain Jouan, and Pierre V. Vignais	731
Functional Characterization of Serum DNase I in MRL ^{-lpr/lpr} Mice	Manuel C. Peitsch, Thomas Hestekamp, Bernhard Polzar, Hans Georg Mannherz, and Jürg Tschopp	739
A Mathematical Approach to Lipolysis Based on the Interrelationship of Physicochemical and Biochemical Data	A. Tavidou, A. Avranas, and P. Arzoglou	746
Human Preproendothelin-1 Is Converted into Active Endothelin-1 by Baculovirus-Infected Insect Cells	Luca Benatti, Liviana Cozzi, Moreno Zamai, Monica Tamburin, Fabrizio Vaghi, Valeria R. Caiola, Maria Serena Fabbrini, and Paolo Sarmientos	753
Species Heterogeneity of Hepatic α_1 -Adrenoceptors: α_{1A} -, α_{1B} -, and α_{1C} -Subtypes	J. Adolfo García-Sáinz, M. Teresa Romero-Avila, Rocio Alcántara Hernández, Marina Macias-Silva, Alberto Olivares-Reyes, and Claudia González-Espinosa	760
A Highly Conserved Tyrosine Residue at Codon 845 within the Kinase Domain Is Not Required for the Transforming Activity of Human Epidermal Growth Factor Receptor	Noriko Gotoh, Arinobu Tojo, Masayuki Hino, Yoshio Yazaki, and Masabumi Shibuya	768
Evaluation of Nitrite Production by Human Monocyte-Derived Macrophages	Eric L. Padgett and Stephen B. Pruetz	775
Endonuclease Activation during Apoptosis: The Role of Cytosolic Ca ²⁺ and pH	Michael A. Barry and Alan Eastman	782
Regulation of Phosphoinositide Hydrolysis in Cultured Astrocytes by Sphingosine and Psychosine	Terry Ritchie, Abraham Rosenberg, and Ernest P. Noble	790
Interaction of P-Glycoprotein with a Hydrophobic Component of Rat Urine	Jeffrey H. M. Charuk and Reinhart A. F. Reithmeier	796
Purified Estrogen Receptor Enhances <i>in Vitro</i> Transcription	Vincenzo Nigro, Anna Maria Molinari, Ignazio Armetta, Antonietta de Falco, Ciro Abbondanza, Nicola Medici, and Giovanni Alfredo Puca	803

Signal Peptide for Peroxisomal Targeting: Replacement of an Essential Histidine Residue by Certain Amino Acids Converts the Amino-Terminal Presequence of Peroxisomal 3-Ketoacyl-CoA Thiolase to a Mitochondrial Signal Peptide <i>Takashi Osumi, Toshiro Tsukamoto, and Shingo Hata</i>	811
Novel Bovine Heart Calmodulin-Dependent Protein Kinase Which Phosphorylates a High Molecular Weight Calmodulin-Binding Protein <i>Junor A. Barnes, Martin J. King, Jawahar Kalra, and Rajendra K. Sharma</i>	819
Isolation and Sequence Determination of cDNA Encoding PMP-22 (PAS-II/SR13/Gas-3) of Human Peripheral Myelin <i>Kiyoshi Hayasaka, Masato Himoro, Kenji Nanao, Wataru Sato, Masayuki Miura, Keiichi Uyemura, Eiichi Takahashi, and Goro Takada</i>	827
Inhibition of Class II MHC Gene Expression by Anti-sense RNA in Transgenic Mice <i>Nobuhiko Miki and Takeshi Tokuhisa</i>	832
Protein Transport in the Permeabilized Cell of <i>Schizosaccharomyces pombe</i> <i>Hideko Kambe-Honjoh, Koji Yoda, and Makari Yamasaki</i>	838
Evidence for Elevation of Cytochrome P4502E1 (Alcohol-Inducible Form) mRNA Levels in Rat Kidney Following Pyridine Administration <i>Hyesook Kim, Sang G. Kim, Min-Young Lee, and Raymond F. Novak</i>	846
Lipopolysaccharide and Cytokines Induce a Macrophage-Type of Nitric Oxide Synthase in Bovine Retinal Pigmented Epithelial Cells <i>O. Goureau, M. Lepoivre, and Y. Courtois</i>	854
<i>In Vivo</i> Targeting of Inflamed Areas by Electroloaded Neutrophils <i>S. Sixou and J. Teissie</i>	860
The Endothelin ET _B Receptor Mediates Both Vasodilation and Vasoconstriction <i>in Vivo</i> <i>Martine Clozel, Gillian A. Gray, Volker Breu, Bernd-Michael Löffler, and Rolf Osterwalder</i>	867
Kinetic Analysis of Duck ϵ -Crystallin with L-Lactate Dehydrogenase Activity: Determination of Kinetic Constants and Comparison of Substrate Specificity <i>Chi-Yue Wu, Shui-Tein Chen, Shyh-Horng Chiou, and Kung-Tsung Wang</i>	874
Homotypic and Heterotypic Ca ²⁺ -Independent Cell Adhesion Activities of Biliary Glycoprotein, a Member of the Carcinoembryonic Antigen Family, Expressed on CHO Cell Surface <i>Shinzo Oikawa, Motomu Kuroki, Yuji Matsuoka, Goro Kosaki, and Hiroshi Nakazato</i>	881
Regulatory Role of Microsomal 3-Hydroxy-3-methylglutaryl-Coenzyme A Reductase in a Tobacco Mutant That Overproduces Sterols <i>Laurence Gondet, Thomas Weber, Pascale Maillot-Vernier, Pierre Benveniste, and Thomas J. Bach</i>	888
Association of Annexin V with Prolactin in the Rat Anterior Pituitary Gland <i>Mitsumori Kawaminami, Kouji Tanaka, Tamae Asawa, Sachiko Osugi, Hiroshi Kawauchi, Shiro Kurusu, and Inoru Hashimoto</i>	894
Alterations in Expression and Structure of the DNA Repair Gene XRCC1 <i>Heahyun Yoo, Li Li, Peter G. Sacks, Larry H. Thompson, Frederick F. Becker, and John Y.-H. Chan</i>	900
Identification of Osteopontin in Isolated Rabbit Osteoclasts <i>Ken-ichi Tezuka, Takuya Sato, Hiroshi Kamioka, Peter J. Nijweide, Kayo Tanaka, Tetsu Matsuo, Mitsue Ohta, Noriyoshi Kurihara, Yoshiyuki Hakeda, and Masayoshi Kumegawa</i>	911
A Homology Domain Shared between <i>Drosophila optomotor-blind</i> and Mouse <i>Brachyury</i> Is Involved in DNA Binding <i>Gert O. Pflugfelder, Helmut Roth, and Burkhard Poeck</i>	918

Mapping of the DOPA Decarboxylase Gene to the 11A Band of the Murine Genome <i>Gilles Bruneau, Jean Thibault, François Gros, and Marie-Geneviève Mattei</i>	926
¹³ C NMR Spectroscopic Measurement of Glutathione Synthesis and Antioxidant Metabolism in the Intact Ocular Lens <i>James A. Willis and Thomas Schleich</i>	931
Rat Copper/Zinc Superoxide Dismutase Gene: Isolation, Characterization, and Species Comparison <i>Jan-Ling Hsu, Gary A. Visner, Ian A. Burr, and Harry S. Nick</i>	936
Vitamin E Protects Nerve Cells from Amyloid β Protein Toxicity <i>Christian Behl, John Davis, Greg M. Cole, and David Schubert</i>	944
Ceruloplasmin Stimulates NADH Oxidation of Pig Liver Plasma Membrane <i>F. J. Alcaín, J. M. Villalba, H. Löw, F. L. Crane, and P. Navas</i>	951
Footprinting Evidence for Close Contacts of the Yeast tRNA ^{Asp} Anticodon Region with Aspartyl-tRNA Synthetase <i>Angela Garcia and Richard Giege</i>	956
DNA Supercoiling Facilitates the Assembly of Transcriptionally Active Chromatin on the Adenovirus Major Late Promoter <i>Reiko Ohba, Hisahiro Tabuchi, and Susumu Hirose</i>	963
Phorbol Ester-Mediated Suppression of Cytochrome P450 Cypla-1 Induction in Murine Skin: Involvement of Protein Kinase C <i>John J. Reiners, Jr., Amador R. Cantu, and Alfred Schöller</i>	970
Identification of Synthetic Retinoids with Selectivity for Human Nuclear Retinoic Acid Receptor γ <i>Bruno A. Bernard, Jean-Michel Bernardon, Chantal Delescluse, Bernard Martin, Marie-Cécile Lenoir, Jean Maignan, Bruno Charpentier, William R. Pilgrim, Uwe Reichert, and Braham Shroot</i>	977
Antisera to Calreticulin Inhibits Sperm Motility in Mice <i>Masahisa Nakamura, Shigeru Oshio, Akihiro Tamura, Shoichi Okinaga, and Kiyoshi Arai</i>	984
Marked Induction of Hepatocyte Growth Factor mRNA in Intact Kidney and Spleen in Response to Injury of Distant Organs <i>Seiho Kono, Mika Nagaike, Kunio Matsumoto, and Toshikazu Nakamura</i>	991
Relaxin Increases Rat Heart Rate by a Direct Action on the Cardiac Atrium <i>David G. Ward, G. Roger Thomas, and Michael J. Cronin</i>	999
Calmodulin Is Involved in Catecholamine Secretion from Digitonin-Permeabilized Bovine Adrenal Medullary Chromaffin Cells <i>Toshio Okabe, Nakaba Sugimoto, and Morihiro Matsuda</i>	1006
Conjugal Transfer of Plasmid and Transposon DNA from <i>Escherichia coli</i> into <i>Porphyromonas gingivalis</i> <i>D. W. Dyer, G. Bilalis, J. H. Michel, and R. Malek</i>	1012
Replication-Defective Virus Infection of Feather Buds Produces a Localized Region of β -Galactosidase Activity <i>Randall B. Widelitz and Cheng-Ming Chuong</i>	1020
Proliferative Effect of Phospholipase A ₂ in Rat Chondrocyte via Its Specific Binding Sites <i>Junji Kishino, Masahiro Tohkin, and Hitoshi Arita</i>	1025
Effect of Photosensitizers in Chemical and Biological Processes: The MTO Mechanism in Photodynamic Therapy <i>Dezső Gál</i>	1032
Incorporation into Planar Lipid Bilayers of ATP-Regulated K ⁺ Channels from Membranes of the Insulin Secreting β -Cell Line, HIT T15 <i>Yoshio Oosawa</i>	1037
Analysis of the Evolution of Angiotensin II Type 1 Receptor Gene in Mammals (Mouse, Rat, Bovine, and Human) <i>Hiroaki Yoshida, Junji Kakuchi, Deng-Fu Guo, Hiroaki Furuta, Naoharu Iwai, Riet van der Meer-de Jong, Tadashi Inagami, and Iekuni Ichikawa</i>	1042

Nerve Growth Factor Suppresses Apoptosis of Murine Neutrophils <i>Yukiko Kannan, Kaori Usami, Mitsuhiro Okada, Shinya Shimizu, and Hiroshi Matsuda</i>	1050
Small-Angle X-Ray Scattering Study by Synchrotron Orbital Radiation Reveals That High Molecular Weight Subunit of Glutenin Is a Very Anisotropic Molecule <i>Norio Matsushima, Gen-ichi Danno, Naoki Sasaki, and Yoshinobu Izumi</i>	1057
Establishment of Hypersensitive Radioimmunoassay for Islet Amyloid Polypeptide Using Antiserum Specific for Its N-Terminal Region <i>Kazutaka Shiomi, Masamitsu Nakazato, Mikiya Miyazato, Kenji Kangawa, Hisayuki Matsuo, and Shigeru Matsukura</i>	1065
Characterization of Human Thyrotropin Receptor-Related Peptide-like Immunoreactivity in Peripheral Blood of Graves' Disease <i>Masami Murakami, Kazuya Miyashita, Masanobu Yamada, Tokuji Iriuchijima, and Masatomo Mori</i>	1074
Phosphorylation of the Recombinant Spliced Variants of the α -Subunit of the Stimulatory Guanine-Nucleotide Binding Regulatory Protein (G_s) by the Catalytic Subunit of Protein Kinase A <i>Nigel J. Pyne, Michael Freissmuth, and Susan Pyne</i>	1081
A High Involvement of O_2^- Possibly Generated in Inner Membranes for Iron-Induced Microsomal Lipid Peroxidation <i>Satoshi Koga and Minoru Nakano</i>	1087
The Rat Angiotensin II AT _{1A} Receptor Couples with Three Different Signal Transduction Pathways <i>Junji Ohnishi, Masami Ishido, Takeshi Shibata, Tadashi Inagami, Kazuo Murakami, and Hitoshi Miyazaki</i>	1094
Mineralocorticoid Hormone Action in Plant Cells <i>M. Mirshahi, A. Mirshahi, A. Nato, and M. K. Agarwal</i>	1102
A Plasminogen-Related Gene Is Expressed in Cancer Cells <i>Lawrence Weissbach and Benjamin V. Treadwell</i>	1108
pH-Dependent Conformational Changes in the T- and R-States of Insulin in Solution: Circular Dichroic Studies in the pH Range of 6 to 10 <i>Yesook Kim and James E. Shields</i>	1115
Effect of pH on Quercetin-Induced Suppression of Heat Shock Gene Expression and Thermotolerance Development in HT-29 Cells <i>Yong J. Lee, Linda Li Curetty, Zi-zheng Hou, Sang H. Kim, Jae H. Kim, and Peter M. Corry</i>	1121
Detection of the GLUT3 Facilitative Glucose Transporter in Rat L6 Muscle Cells: Regulation by Cellular Differentiation, Insulin, and Insulin-like Growth Factor-I <i>Philip J. Bilan, Yasuhide Mitsumoto, Frances Maher, Ian A. Simpson, and Amira Klip</i>	1129
High Level Expression, Purification, and Characterization of the Kunitz-Type Protease Inhibitor Domain of Protease Nexin-2/Amyloid β -Protein Precursor <i>Steven L. Wagner, Robert S. Siegel, Thomas S. Vedvick, William C. Raschke, and William E. Van Nostrand</i>	1138
Rhamnose Moiety of Phosphoramidon Is Not Required for <i>in Vivo</i> Inhibition of Endothelin-Converting Enzyme <i>David M. Pollock, Kazumi Shiosaki, Gerard M. Sullivan, and Terry J. Opgenorth</i>	1146
The Generation of Inositolglycan Mediators from Rat Liver Plasma Membranes: The Role of Guanine Nucleotide Binding Proteins <i>Elaine Kilgour, Joseph Larner, and Guillermo Romero</i>	1151
Proposed Tertiary Structure of the Sodium Channel <i>Chikara Sato and Gen Matsumoto</i>	1158

- PCR Cloning of the cDNA of Rabbit Skeletal Muscle Protein Phosphatase Inhibitor-2
Zhongjian Zhang, Ge Bai, and Ernest Y. C. Lee 1168
- Hammerhead Ribozyme Cleavage of Hamster Prion Pre-mRNA in Complex Cell-Free
 Model Systems
*Robert B. Denman, Benjamin Purow,
 Richard Rubenstein, and David L. Miller* 1171
- Leukocyte Chemotactic Activity of FKBP and Inhibition by FK506
Maria C. Leiva and C. Richard Lyttle 1178

BIOCHEMICAL AND BIOPHYSICAL RESEARCH COMMUNICATIONS

CONTENTS

Volume 186, Number 3, August 14, 1992

- The Origin of the Electrophoretic Doublet of Thyroglobulin
Fabrizio Gentile, Giuseppe Palumbo, and Gaetano Salvatore 1185
- Identification of the Hepatocyte Mitogen in Bovine Spleen as Heparin-Binding
 Growth Factors
*Masashi Suzuki, Takehiro Itoh, Tohru Suzuki,
 Nobumitsu Koga, Katsuya Kato, Takao Saito, and Youji Mitsui* 1192
- Expression of TAPA-1 in Preimplantation Mouse Embryos
Matthew L. Andria, Gregory S. Barsh, and Shoshana Levy 1201
- Neurocalcin, a Novel Calcium Binding Protein with Three EF-Hand Domains,
 Expressed in Retinal Amacrine Cells and Ganglion Cells
*Akio Nakano, Motomu Terasawa, Masato Watanabe, Nobuteru Usuda,
 Takashi Morita, and Hiroyoshi Hidaka* 1207
- Propagation of a Calcium Pulse between Osteoblastic Cells
Shen-Ling Xia and Jack Ferrier 1212
- Reactive Oxygen-Reducing and Protein-Refolding Activities of Adult T Cell Leukemia-
 Derived Factor/Human Thioredoxin
*Akira Mitsui, Tadashi Hirakawa,
 and Junji Yodoi* 1220
- Molecular Cloning of Rabbit CAP-50, a Calcyclin-Associated Annexin Protein
*Hiroshi Tokumitsu, Akihiro Mizutani, Masa-aki Muramatsu,
 Takashi Yokota, Ken-ichi Arai, and Hiroyoshi Hidaka* 1227
- Functionally Essential Cytoplasmic Domain of the Erythropoietin Receptor
*Tomoki Chiba, Atsushi Kishi, Masahide Sugiyama, Hiroshi Amanuma,
 Mitsuru Machide, Yuka Nagata, and Kazuo Todokoro* 1236
- Evaluation of the Holoenzyme Content of Aromatic L-Amino Acid Decarboxylase in
 Brain and Liver Tissues
*Yasuhiro Kawasaki, Hideyuki Hayashi,
 Kazuyuki Hatakeyama, and Hiroyuki Kagamiyama* 1242
- Template. Phosphorothioate Oligonucleotides Duplexes as Inhibitors of HIV-1 Reverse
 Transcriptase
*Georges Maury, Abdelaziz El alaoui, François Morvan,
 Barbara Müller, Jean-Louis Imbach, and Roger S. Goody* 1249
- Augmented Expression of HSP72 Protein in Normal Human Fibroblasts Irradiated
 with Ultraviolet Light
Keiji Suzuki and Masami Watanabe 1257
- The Characterization of 5 Histidine-Serine Mutants of Human 5-Lipoxygenase
M. David Percival and Marc Ouellet 1265
- Construction of a tRNA-Embedded-Ribozyme Trimming Plasmid
*Noriko Yuyama, Jun Ohkawa, Yoshio Inokuchi, Makoto Shirai,
 Akio Sato, Satoshi Nishikawa, and Kazunari Taira* 1271

- Cloning and Expression of the Mouse Homolog of the Human α_2 -C2 Adrenergic Receptor
Andrzej J. Chruscinski, Richard E. Link, David A. Daunt, Greg S. Barsh, and Brian K. Kobilka 1280
- Effects of a Bone Lysine-Rich 18-kDa Protein on Osteoblast-like MC3T3-E1 Cells
Hai-Yan Zhou, Yohko Ohnuma, Hiroko Takita, Ryuichi Fujisawa, Morimichi Mizuno, and Yoshinori Kuboki 1288
- Effect of Glycolipids on the Phase Behavior and Dynamic Properties of Phospholipid Liposomes
Jian-Wen Chen, Ke Shi, Langping Zhang, and Fen Huang 1294
- Novel Generation of Hormone Receptor Specificity by Amino Terminal Processing of Peptide YY
D. Grandt, S. Teyssen, M. Schimiczek, J. R. Reeve, Jr., F. Feth, W. Rascher, H. Hirche, M. V. Singer, P. Layer, H. Goebell, F. J. Ho, and V. E. Eysselein 1299
- Adhesion Promotes Transcellular Leukotriene Biosynthesis during Neutrophil–Glomerular Endothelial Cell Interactions: Inhibition by Antibodies against CD18 and L-Selectin
Hugh R. Brady and Charles N. Serhan 1307
- Rapamycin Inhibits the Phosphorylation of p70 S6 Kinase in IL-2 and Mitogen-Activated Human T Cells
Naohiro Terada, Joseph J. Lucas, Agota Szepesi, Richard A. Franklin, Kozo Takase, and Erwin W. Gelfand 1315
- Pyrogenic Action of Endothelin in Conscious Rabbit
Tomoyuki Koshi, Toshiyuki Edano, Koichi Arai, Chiyoaka Suzuki, Yuriko Ehara, Mitsuteru Hirata, Masao Ohkuchi, and Tetsuro Okabe 1322
- 4-Amino-6-methylhept-2-enoic Acid: A Leucine Analogue and Potential Probe for Localizing Sites of Proteolytic Control in the Hepatocyte
John J. Wert, Jr., Giovanni Miotto, Motoni Kadowaki, and Glenn E. Mortimore 1327
- The Cell Cycle Regulator, Human p50^{wel}, Is a Tyrosine Kinase and Not a Serine/Tyrosine Kinase
Reiko Honda, Yoshiki Ohba, and Hideyo Yasuda 1333
- Temperature-Dependent Protein Folding *in Vivo*: Lower Growth Temperature Increases Yield of Two Genetic Variants of *Xenopus laevis* Cu,Zn Superoxide Dismutase in *Escherichia coli*
Andrea Battistoni, M. Teresa Carri, A. Paola Mazzetti, and Giuseppe Rotilio 1339
- Localization of smg p25A/rab3A p25, a Small GTP-Binding Protein, at the Active Zone of the Rat Neuromuscular Junction
Akira Mizoguchi, Masahiko Arakawa, Motomaru Masutani, Akira Tamekane, Hideyuki Yamaguchi, Naoki Minami, Yoshimi Takai, and Chizuka Ide 1345
- Nuclear Proteins from Capan-2 Cell Line Form Specific Complexes with the 17-1A Antigen Gene Promoter
Barbara Siemieniako and Ewa Wiland 1353
- Heterotopic Bone Formation Induced by Bone Morphogenetic Protein in Mice with Collagen-Induced Arthritis
Yoshiichi Fujimori, Takashi Nakamura, Shinichiro Ijiri, Kazuya Shimizu, and Takao Yamamuro 1362
- Cytochrome *b*₅₅₈, a Component of the Phagocyte NADPH Oxidase, Is a Flavoprotein
Hideki Sumimoto, Norihiro Sakamoto, Masahiko Nozaki, Yoshiyuki Sakaki, Koichiro Takeshige, and Shigeki Minakami 1368
- Internalization of V₂-Vasopressin Receptors in LLC-PK₁-Cells: Evidence for Receptor-Mediated Endocytosis
Berthold Hofer, Hans-Joachim Merker, Jacques A. Dürr, Sigrid Schiller, Peter Gross, and Johannes Hensen 1376
- Phospholipid Import into Mitochondria: Possible Regulation Mediated through Lipid Polymorphism
D. Ardail, F. Lermé, and P. Louisot 1384
- Heterogeneous Responses of Recombinant Human Thyrotropin Receptor to Immunoglobulins from Patients with Graves' Disease
Toyoshi Endo, Masayuki Ohmori, Masato Ikeda, Emiko Anzai, and Toshimasa Onaya 1391

- Regulatory Role of GM3 Ganglioside in Integrin Function, as Evidenced by Its Effect on Function of $\alpha 5 \beta 1$ -Liposomes: A Preliminary Note
Mingzhe Zheng, Tsutomu Tsuruoka, Tsutomu Tsuji, and Sen-itiroh Hakomori 1397
- Expression of the B Cell-Associated Tyrosine Kinase Gene *lyn* in Primary Neuroblastoma Tumors and Its Modulation during the Differentiation of Neuroblastoma Cell Lines
Wolfgang Bielke, Andrew Ziemieki, Ludwig Kappos, and Guido C. Miescher 1403
- Induction of Platelet-Derived Growth Factor Chain A Gene Expression in Human Smooth Muscle Cells by Oxidized Low Density Lipoproteins
Renate M. L. Zwijsen, Sandra C. Japenga, Astrid M. P. Heijen, Rommert C. van den Bos, and Jan H. Koeman 1410
- Interaction of DNA with Cationic Liposomes: Ability of Transfecting Lentil Protoplasts
Mauro Maccarrone, Luciana Dini, Luisa Di Marzio, Antonio Di Giulio, Antonello Rossi, Giuseppe Mossa, and Alessandro Finazzi-Agrò 1417
- γ -Irradiation Potentiates L-Arginine-Dependent Nitric Oxide Formation in Mice
Nina V. Voevodskaya and Anatoly F. Vanin 1423
- Microbial Oxidation of Adamantanone by *Pseudomonas putida* Carrying the Camphor Catabolic Plasmid
Sergey A. Selifonov 1429
- Development of Hydrophobicity Parameters for Prenylated Proteins
Shaun D. Black 1437
- Age-Associated Decreases in Prostaglandin Contents in Human Gastric Mucosa
Hidemi Goto, Satoru Sugiyama, Atsushi Ohara, Hiroshi Hoshino, Eiji Hamajima, Shin-ichi Kanamori, Yoshihisa Tsukamoto, and Takayuki Ozawa 1443
- Mapping the Orientation of an Antigenic Peptide Bound in the Antigen Binding Groove of H-2K^b Using a Monoclonal Antibody
Sebastian Joyce, Rui Sun, and Stanley G. Nathenson 1449
- Conjugated Bile Acid Uptake by *Xenopus laevis* Oocytes Induced by Microinjection with Ileal Poly A⁺ mRNA
Steven Sorscher, Jan Lillienau, Judy L. Meinkoth, Joseph H. Steinbach, Claudio D. Scheingart, James Feramisco, and Alan F. Hofmann 1455
- Alteration of RNA I Metabolism in a Temperature-Sensitive *Escherichia coli* RNPA Mutant Strain
Young Hwan Jung, Inwon Park, and Younghoon Lee 1463
- A Model System for Tumor Angiogenesis: Involvement of Transforming Growth Factor- α in Tube Formation of Human Microvascular Endothelial Cells Induced by Esophageal Cancer Cells
Kazuki Okamura, Akio Morimoto, Ryoji Hamanaka, Mayumi Ono, Kimitoshi Kohno, Yuzo Uchida, and Michihiko Kuwano 1471
- Synthesis of Phosphatidylinositol 3,4-Bisphosphate but Not Phosphatidylinositol 3,4,5-Trisphosphate Is Closely Correlated with Protein-Tyrosine Phosphorylation in Thrombin-Activated Human Platelets
Yutaka Yatomi, Yukio Ozaki, and Shoji Kume 1480
- Genes for Bone Morphogenetic Proteins Are Differentially Transcribed in Early Amphibian Embryos
Shin-ichiro Nishimatsu, Atsushi Suzuki, Akihito Shoda, Kazuo Murakami, and Naoto Ueno 1487
- Platelet-Derived Growth Factor Activation of Gastric Mucosal Calcium Channels
B. L. Slomiany, J. Liu, and A. Slomiany 1496

- Sensitive Detection and Identification of Mycoplasma-like Organisms in Plants by Polymerase Chain Reactions *Dennis Schaff, Ing-Ming Lee, and Robert E. Davis* 1503
- PDGF AA Homodimers Are Potent Chemoattractants for Fibroblasts and Neutrophils, and for Monocytes Activated by Lymphocytes or Cytokines *Deborah Shure, Robert M. Senior, Gail L. Griffin, and Thomas F. Deuel* 1510
- Methylation Inhibits the Interaction of DNA Binding Proteins with a Potential C-Abl Intron Regulatory Element *Jamie A. Hengst-Zhang and Sigmund A. Weitzman* 1515
- Enhanced Photorelaxation in Aorta, Pulmonary Artery, and Corpus Cavernosum Produced by BAY K 8644 or *N*-Nitro-L-arginine *Xiu Chen and C. N. Gillis* 1522
- Assembly-Dependent Phosphorylation of Myosin and Paramyosin of Native Thick Filaments in *Caenorhabditis elegans* *Chinmoy S. Dey, Philip R. Deitiker, and Henry F. Epstein* 1528
- Isolation and Structural Characterization of a New Crosslinking Amino Acid, Cyclopentenosine, from the Acid Hydrolysate of Elastin *Fumihiko Nakamura, Kazuyuki Yamazaki, and Kyoza Suyama* 1533
- SK&F96365 Inhibits Histamine-Induced Formation of Endothelium-Derived Relaxing Factor in Human Endothelial Cells *Wolfgang F. Graier, Klaus Groschner, Kurt Schmidt, and Walter R. Kukovetz* 1539
- Solubilization of Ribosomes in Reverse Micelles *Giordano Palazzo and Pier Luigi Luisi* 1546
- Synthesis and Purification of Biologically Active Rat Brain-Derived Neurotrophic Factor from *Escherichia coli* *Alessandro Negro, Vincenza Corsa, Carlo Moretto, Stephen D. Skaper, and Lanfranco Callegaro* 1553
- Serotonin Stimulates a Ca^{2+} Permeant Nonspecific Cation Channel in Hepatic Endothelial Cells *Ulrike Brauneis, Zenaida Gatmaitan, and Irwin M. Arias* 1560
- The Binding of Bridged Bis-Pyridinium Oximes to DNA and Its Relevance to the Induction of Mitochondrial Dysfunction in Yeast *Guy Dodin, Jean-Marc Kühnel, Pierre Demersemann, Dietrich Aeverbeck, and Sylvano Nocentini* 1567
- Study of *O*-Glycan Sialylation in C6 Cultured Glioma Cells: Regulation of a β -Galactoside α 2,3 Sialyltransferase Activity by Ca^{2+} /Calmodulin Antagonists and Phosphatase Inhibitors *Pascal Reboul, Pascal George, Jocelyne Geoffroy, Pierre Louisot, and Pierre Broquet* 1575
- Inhibition of Phosphatidylserine Synthesis by Glutamate, Acetylcholine, Thapsigargin, and Ionophore A23187 in Glioma C6 Cells *M. Czarny, P. Sabata, A. Ucieklak, L. Kaczmarek, and J. Barańska* 1582
- An Endogenous Membrane-Bound Protein Inhibits the Phosphorylation of the L-Type Calcium Channel by the cAMP-Dependent Protein Kinase *Ruediger Woscholski and Dieter Marmé* 1588
- Regulation of Endothelin-1 Synthesis in Cultured Guinea Pig Airway Epithelial Cells by Various Cytokines *Takeo Endo, Yoshiyuki Uchida, Hirokazu Matsumoto, Nobuhiro Suzuki, Akihiro Nomura, Fusao Hirata, and Shizuo Hasegawa* 1594
- Cytotoxicity of a New IMP Dehydrogenase Inhibitor, Benzamide Riboside, to Human Myelogenous Leukemia K562 Cells *Hiremagalur N. Jayaram, Kamran Gharehbaghi, Nagesh H. Jayaram, Jason Rieser, Karsten Krohn, and Kenneth D. Paull* 1600

Molecular Cloning and Chromosomal Mapping of a Human Protein-Tyrosine Phosphatase LC-PTP	Masaaki Adachi, Masuo Sekiya, Masaharu Isobe, Yoshinori Kumura, Zen-ichi Ogita, Yuji Hinoda, Kohzoh Imai, and Akira Yachi	1607
Peptide Tyrosine Phenylalanine (PYF): A Novel, Neuropeptide F-Related Nonapeptide from the Brain of the Squid, <i>Loligo vulgaris</i>	David Smart, Christopher Shaw, Colin Johnston, Lars Thim, David Halton, and Keith Buchanan	1616
Evidence for Thiophene-S-Oxide as a Primary Reactive Metabolite of Thiophene <i>in Vivo</i> : Formation of a Dihydrothiophene Sulfoxide Mercapturic Acid	P. M. Dansette, Do Cao Thang, H. El Amri, and D. Mansuy	1624
Transcriptional Activation of the Urokinase Receptor Gene by Endothelin-1	Ci-Jiang He, Geneviève Nguyen, Xiao Mei Li, Marie-Noëlle Peraldi, Colette Adida, Eric Rondeau, and Jean-Daniel Sraer	1631
Immunosuppressive Molecules Produced by Sertoli Cells Cultured <i>in Vitro</i> : Biological Effects on Lymphocytes	P. De Cesaris, A. Filippini, C. Cervelli, A. Riccioli, S. Muci, G. Starace, M. Stefanini, and E. Ziparo	1639
Cholesterylene, a Newly Recognized Tissue Lipid, Found at High Levels in the Cornea	Richard J. Cenedella, Lana L. Linton, and Cecil P. Moore	1647
Interaction of Ubiquinone and Vitamin K ₃ with Mitochondrial Succinate-Ubiquinone Oxidoreductase	Alexander B. Kotlyar, Menahem Gutman, and Brian A. C. Ackrell	1656
Delimitation of Cohesive Ends Site (<i>cos</i>) of <i>Streptomyces</i> Temperate Bacteriophage R4	Hisayuki Mitsui and Hideo Takahashi	1663
Electrophoretic Profiles of Mitochondrial Plasmids in <i>Neurospora</i> Suggest They Replicate by a Rolling Circle Mechanism	R. Maleszka	1669
Dichotomy in the Laminin-Binding Properties of Soluble and Membrane-Bound Human Galactoside-Binding Protein	Josiah Ochieng, Mark Gerold, and Avraham Raz	1674
Modulation of K ⁺ Channels by Hydrogen Peroxide	E. Vega-Saenz de Miera and B. Rudy	1681
The Primary Structure of Rat Ribosomal Protein S25	Yuen-Ling Chan and Ira G. Wool	1688
Phosphorylation of the Epstein-Barr Virus Nuclear Antigen 2	Friedrich A. Grässer, Susanne Göttel, Peter Haiss, Brigitte Boldyreff, Olaf G. Issinger, and Nikolaus Mueller-Lantzsch	1694
Author Index for Volume 186		1702

NOTICE

The Subject Index for Volume 186 will appear as part of a cumulative index for the year 1992.

